June 6, 1941
LAKE COUNTY BANNER

Federal Agency Would Undertake Extensive Program on Reelfoot

Extensive plans contained in a report covering contemplated improvement work on Reelfoot Lake and involving joint control and management of the lake by the federal government and state are outlined in detail in the report of Dr. Clarence Cottam submitted by him to Ira N. Gabrielson, director of the division of Wildlife Research in Washington. The report is printed below in full:

******

Reelfoot Lake is a master product of Nature, an area of unique and intriguing charm, with no counterpart on the continent. It is an area of outstanding scientific interest, of high recreational value, and of still greater economic worth. For fish, waterfowl, and other forms of wildlife, it forms an ideal habitat strategically located in the Mississippi flyway in Lake and Obion counties in the northwest corner of Tennessee. It is an area of inestimable worth to the local people, to the State and to the Nation generally. It is a gift of Nature, a product of the wave-like convolution of the New Madrid earthquake of 1811-1812.

While it was born almost instantaneously as a gift to Man, its permanancy and value were dependent upon wise use of the land. From even a brief and superficial study of the lake, the history of Man's treatment of the area is indelibly recorded, and unfortunately it relates a story of selfishness, abuse, and disrespect for Nature's inexorable law of cause and effect. Favorable water levels were disregarded and altered by drainage and fluctuation in order that a few more acres of un-needed land could be tilled, adding further to the over-production of cotton, or to enable a few selfish individuals to seine more of the capital stock of fishes that were already being harvested faster than they could reproduce.

Adjacent highlands were scalped of their soil-conserving vegetative covering. Because conservation was not practiced the land developed ugly scars. Innumerable gullies were formed. The rich topsoil flowed into the beautiful Reelfoot and choked out much of the desirable vegetation. A critical reduction in water level favored the growth of such obnoxious species as water chinquapin and, later, the giant cut-grass. This latter is a pest species which forms such impenetrable marsh that wildlife can not utilize the invaded areas. It is apparent from a study of early maps and present conditions that the obnoxious cut-grass has more than quadrupled its abundance of a half-century ago, and it is rapidly encroaching upon the remaining productive water area. Obviously, management of the lake has been short-sighted. Dissatisfaction on the part of the local people and those of the State in general was, therefore, inevitable.

The problem became so serious that it seems beyond the capacity of the State alone to solve. Consequently, the State legislature of Tennessee passed an Act known as Public Chapter, No. 48, House

Bill No. 297, to authorize the conveyance or lease of Reelfoot Lake and the State property adjacent thereto to the United States Government, or the appropriate department thereof, and to appoint a Commission to consummate such conveyance." This Act was signed by the Governor and became law on February 11, 1941.

Section 2 of the Act states "That the Governor of the State, the Comptroller, Secretary of State, R. C. Donaldson of Lake County and Edward Parks of Obion County, are hereby constituted a Commission for the purpose of negotiating such conveyance or lease..." The Commissioner of Conservation and the Attorney General were designated as advisory members of said Commission, but without power to vote upon matters coming before the Commission.

As a result of this Act, there have been informal discussions between members of the Commission, and representatives of the U. S. Fish and Wildlife Service. At the time of the annual meeting of the North American Wildlife Conference held at Memphis in February 1941, Mr. Donaldson was promised that further inspection of Reelfoot would shortly be made by the Service, and that a report upon the survey, with a concrete proposal for management or transfer, would be submitted. A preliminary report on an inspection made in August 1939, listing some of the geological problems of the area, was transmitted to Mr. Donaldson shortly after the work was done. The present report is the result of supplementary study.

This more recent inspection was made by Messrs. J. C. Salyer and Clarence Cottam, and they were fortunate in having Messrs. Parks and Donaldson of the Commission, and Mr. R. G. Turner, Director, Division of Game and Fish of the Tennessee Conservation Department, accompany them on part of the trip. Later they were assisted by Messrs. William V. Taylor and Warren E. Hall of the Service's engineering staff.

There seemed to be complete unanimity of opinion among all members of the party regarding the present condition and ecological trend of the lake. All could see that the water area was rapidly decreasing, and that cut-grass was extending its occupation at an alarming rate. The zones of ecological succession were clearly discernable, and three to five feet plant foods, are now overgrown with dense beds of cut-grass or even black willow trees. The greatest change has taken place in the shallower areas, particularly at the mouths of the larger tributaries which are heavily laden with silt after each rain storm of even moderate intensity.

The open clear water is still abundantly supplied with various species of submerged aquatic plants. In the shallower water (less than four feet in depth) and particularly in those parts of the lake adjacent to marsh vegetation, the cow lillies (spatter-dock) and lotus (water chinquapin) are so abundant that they are fast crowding out the more desireable vegetation. Here water movement is retarded, and silt is deposited. In a still shallower zone, generally in water up to one foot in depth, and often in deeper water, the giant cut-grass has formed dense and almost impenetrable stands. In addition, floating islands of the plant are forming new colonies. This perennial grass with large

undergrowth rootstocks is favored by silting; consequently, at the mouth of Reelfoot Creek it makes an unusually vigorous growth. As siltation builds the soil to or above water level, growth of willows follows, and on the still higher land, a forest of hardwoods thrives. Reduction of the water level greatly progresses the utility of the lake accelerates this succession, and as it diminishes.

At present this process of destruction is advancing at an alarming rate, and unless corrective measures are soon adopted, a resource of inestimable worth will be lost forever. Correction of these destructive forces, and rehabilitation of the lake, will be slow and costly, and will require a sustained, well-planned and coordinated program on the part of the State and Federal Governments. The Federal Government, through its Fish and Wildlife Service however, cannot participate in this work to the extent of expending large sums of money without having title to part of the area vested in the United States Government.

It would, therefore, seem best to convey title to part of the lake in the Federal Government, and to declare this unit an inviolate sanctuary. This would enable the Fish and Wildlife Service to assist the State in rehabilitating or developing the State's holdings on the lake. The larger part of the lake could remain State property with regulated hunting permitted. The entire lake would be open to fishing in accordance with State laws, and the entire area would be cooperatively administered, under plan of management mutually agreed upon. All revenues from fishing and hunting on the lake would go to the State.

In selecting the areas to be recommended for transfer to the Federal Government, due consideration was given public needs and uses of the lake. Areas of greatest value, or those most frequently used for recreation, hunting and fishing, were excluded from the proposed refuge. On the other hand, some of the most serious "problem" areas such as the mouth of Reelfoot Creek were included.

The land proposed for transfer to the Federal Government will perhaps aggregate slightly more than a third of the total acreage of the lake, although only about one-fifth of the good open water areas would be included.

The government would take over the spillway and water opening into Edgewater Beach, and 100 feet on either side of these and any other water outlet structures that now exist or that may later be developed. The purpose of this is to control water flowage into the lake. This would not interfere with the present highway. The Fish and Wildlife Service should take no part in any plan to rehabilitate or restore maximum wild life of Reelfoot Lake unless it can have necessary control of the water levels, because no plan of management of the lake can possibly be successful without such control.

At the present time the water in the lake is being held to its lowest possible level. This destroys or eliminates a vast area of good fish and wildlife habitat, and favors the extension of giant cut-grass and other obnoxious vegetation. Service engineers are now determining lake contours. During the growing season especially, the lake level should be raised as much as it can be

without endangering or damaging private property or causing the lake to overflow. It is believed that the average level can be raised 18 inches to two feet above the bottom of the present spillway.

Water level adjustment is an indispensible tool in the control of obnoxious vegetation; therefore the best interests of the public will be served in granting the Service the right to lower or raise the water levels as needs demand. The present spillway is not well adapted for regulating desireable water levels. Adjustments should be made in the present unworkable fish ladder and in facilities for lowering and raising the water level.

If the essence of the above plan of cooperative management and divided ownership of the lake is unsatisfactory to the State, the most appropriate alternative would seem to be complete transfer to the Federal Government of title of all State property on the lake on the written assurance that one-half of the area would be subject to regulated shooting and all the area subject to regulated fishing. Because of the expense that must necessarily be involved in controlling silting and obnoxious vegetation, and also because all revenues derived from hunting and fishing will go to the State, the Federal Government should not pay for any land transferred to it.

The south end of the lake, particularly, has high recreational values. Regardless of the plan of management for the lake as a whole, this feature should be encouraged and developed.

Until more intensive study is made, regardless of the plan of management plan can be submitted. There is urgent need for a CCC, WPA, or Conscientious Objectors' camp to assist in development work. The work program should include:

1. Adjustment of the spillway and fish ladder to enable effective control of water levels, including both further drawdown and increase in water levels. The plan for adjustment of the spillways can be prepared by the Service's engineering section. It would seem that a portion of the State's funds appropriated by their Public Chapter No. 54, House Bill No. 731, could be used for this purpose along with funds allocated by the Fish and Wildlife Service.

2. Control of obnoxious vegetation:

a. Giant cut-grass.
b. Lotus
c. Coontail
d. Others

Control of obnoxious vegetaion can be accomplished in a number of ways. By far the biggest single problem is the control of the giant cut-grass. Even though insufficient study has been given the problem, it is believed that late in the fall or winter the water level should be abruptly dropped to expose the grass, after it has dried considerable, as hot a flame as possible should be applied to kill the rootstocks, immediately following the burning, the lake level should be raised to as high a level as it can be safely held. This treatment should eliminate much of the plant. The use of under water mowers should materially aid in controlling lotus and spatter-dock, as well as cut-grass.

3. Abatement of silting in the lake. This can be accomplished

by appropriate soil conservation practices on the highlands through which Reelfoot, Indian, and other creeks flow. Silting basins and check dams should be developed at the mouths of the large creeks, and particularly at the mouth of Reelfoot Creek. It should be understood that necessary catch basins could be built on any Federal or State lands, and if silting basins should extend beyond the State property boundary, the State would obtain flowage easements.

4. Adjustment of the environment to favor desirable plants, and to enable them to compete successfully with undesirable plants.

5. Adopt a planting program of desirable marsh, aquatic, and terrestrial species.

6. Build channels in the marsh to afford better circulation of the water, to facilitate patrol operations, and to make available the resources of the lake.

7. Attempt to develop an environment most suitable for fish, waterfowl, and fur-bearers.

8. Cooperate with the State in recreational development of the area.

9. Use Government-owned adjacent Isom Lake as rearing pond for fish to be planted in Reelfoot Lake.

It should be mutually agreed that there will be close collaboration of the state and federal services in law enforcement, patrolling, and encouraging multiple use of the area, so that it will best serve fishermen, hunters, bird lovers, scientists, recreationists, and the citizens of Lake and Obion counties.

It is understood that to protect the State's interests in the area, considerable adjacent upland was purchased some years ago. It was further understood that much of this land has been leased, but that the leases expire June 30 this year. It is urged that no leases, or only very short term contracts for these lands, now be given until the disposition of the lake is decided upon.

Respectfully submitted,

CLARENCE COTTAM,
In Charge, Food Habits,
Division of Wildlife Research